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ASSIGNMENT BOOKLET 5A

MAT1037 Pure Mathematics 10
Module 5: Section 1 Assignment

FOR STUDENT USE ONLY

Date Assignment Submitted: ______________________

Time Spent on Assignment: ______________________

(If label is missing or incorrect)

Student File Number: ______________________

Module Number: ____________

FOR OFFICE USE ONLY

Assigned Teacher: ______________

Assignment Grading: ______________

Graded by: ______________

Date Assignment Received:

Student's Questions and Comments

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Name

Address

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Teacher's Comments

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Teacher

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- Has your work been reread to ensure accuracy in spelling and details?
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Pure MATHEMATICS 10

Module 5

Trigonometry

ASSIGNMENT BOOKLET 5A

Learning
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FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Section 1 Assignment	30	

Teacher's Comments

Pure Mathematics 10
Module 5: Trigonometry
Assignment Booklet 5A
Section 1 Assignment
Learning Technologies Branch
ISBN 0-7741-2149-1

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Students	✓
Teachers	✓
Administrators	
Home Instructors	
General Public	
Other	

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ASSIGNMENT BOOKLET 5A
PURE MATHEMATICS 10: MODULE 5
SECTION 1 ASSIGNMENT

Your mark for this module will be determined in part by how well you do your assignments.

This Assignment Booklet is worth 30 marks out of the total 100 marks for Module 5. The value of each assignment and each question is stated in the left margin.

Work slowly and carefully. If you have difficulty, go back and review the appropriate topic.

Be sure to proofread each assignment carefully.

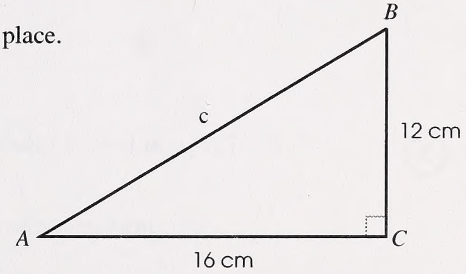
(30)

Section 1 Assignment: Measurement

Read all parts of your assignment carefully and record your answers in the appropriate places. Clearly show how you arrived at your answers by showing your work.

(4) **1.** Draw a diagram of a triangle, where $\sin\theta = \frac{5}{13}$ and $\angle\theta$ is acute; then find $\cos\theta$ and $\tan\theta$.

(4) **2.** Solve ΔABC. Round your answers to 1 decimal place.



④ **3.** An aircraft flying at an altitude of 2000 m is approaching an airport. If the angle of depression of the airport is 5°, what is the distance from the plane to the airport measured along the ground? Round your answer to the nearest tenth of a kilometre.

⑤ **4.** A hot-air balloon is rising vertically. When the balloon is 150 m above the ground, a passenger in the balloon determines the angle of depression of a parked car to be 30°. What will the angle of depression be if the balloon ascends another 50 m? Round your answer to the nearest degree.

③ **5.** The point $(-6,\ 8)$ lies on the terminal arm of $\angle A$ in standard position. Find $\sin A$ and $\cos A$.

③ **6.** Find $\angle A$ to the nearest tenth of a degree if $\sin A = 0.5678$ and $0° \le \angle A \le 180°$.

④ **7.** From the bridge of a boat on the Nahonni river, the angle of elevation to the top of Virginia Falls is $73°$. The angle of depression of the bottom of the falls from the bridge of the boat is $5°$. Calculate the height of Virginia Falls if the bridge of the boat is 2.4 m above the water. Round your answer to the nearest metre.

8. Determine the angle that makes each of the following statements true.

① **a.** $\sin 50° = \cos$ __________

① **b.** $\sin$ __________ $= \cos\ 10°$

① **c.** $\sin 45° = \cos$ __________

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ASSIGNMENT BOOKLET 5B

MAT1037 Pure Mathematics 10
Module 5: Section 2 Assignment and Final Module Assignment

FOR STUDENT USE ONLY

Date Assignment Submitted: ______________________

Time Spent on Assignment: ______________________

(If label is missing or incorrect)

Student File Number: ______________________

Module Number: ______________

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Assigned Teacher: ______________

Assignment Grading: ______________

Graded by: ______________

Date Assignment Received:

Student's Questions and Comments

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Name ______________

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Teacher's Comments

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Teacher

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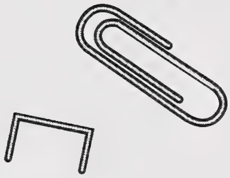
Pure MATHEMATICS 10

Module 5
Trigonometry
ASSIGNMENT BOOKLET 5B



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Summary

	Total Possible Marks	Your Mark
Section 2 Assignment	30	
Final Module Assignment	40	
	70	

Teacher's Comments

Pure Mathematics 10
Module 5: Trigonometry
Assignment Booklet 5B
Section 2 Assignment and Final Module Assignment
Learning Technologies Branch
ISBN 0-7741-2150-5

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ASSIGNMENT BOOKLET 5B
PURE MATHEMATICS 10: MODULE 5
SECTION 2 ASSIGNMENT AND FINAL MODULE ASSIGNMENT

Your mark for this module will be determined in part by how well you do your assignments.

This Assignment Booklet is worth 70 marks out of the total 100 marks for Module 5. The value of each assignment and each question is stated in the left margin.

Work slowly and carefully. If you have difficulty, go back and review the appropriate topic.

Be sure to proofread each assignment carefully.

㉚ Section 2 Assignment: The Laws of Sines and Cosines

Read all parts of your assignment carefully and record your answers in the appropriate places. Clearly show how you arrived at your answers by showing your work.

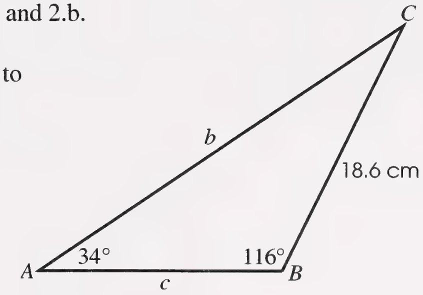
② **1.** State the required sides and angles for the two situations for which the law of cosines can be used.

____

____

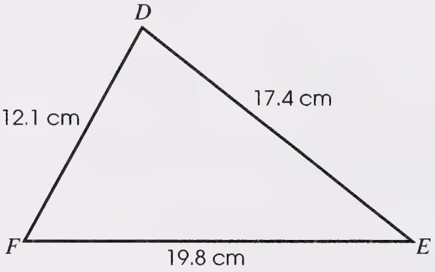
2. Use the triangle on the right to answer questions 2.a. and 2.b.

③ **a.** Find the length of side AC. Round your answers to the nearest tenth.

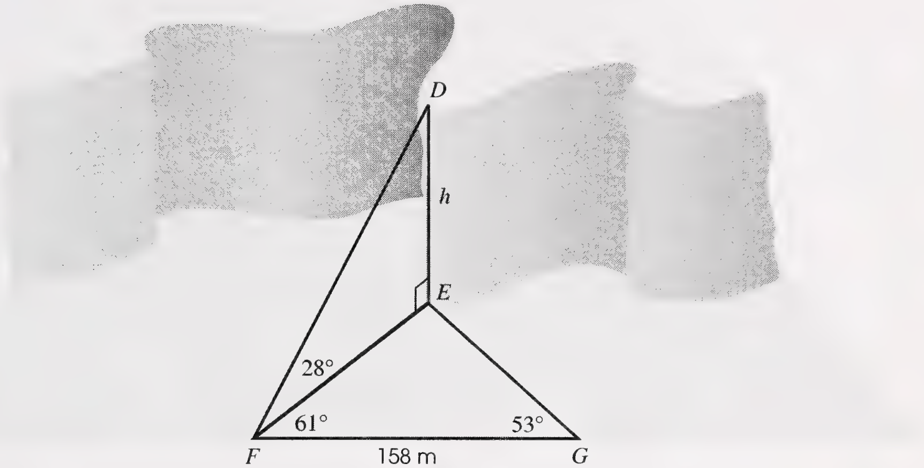


④ **b.** Calculate the area of the triangle. Round your answer to the nearest tenth.

③ **3.** Calculate the measure of $\angle D$. Round your answer to the nearest degree.

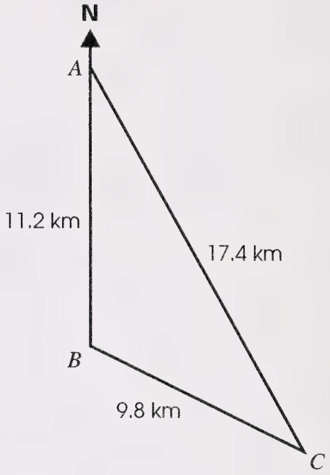


⑤ **4.** A surveyor has recorded the following measurements of an inaccessible cliff from a path. Find the height, *h*, of the cliff. Round your answer to the nearest tenth.

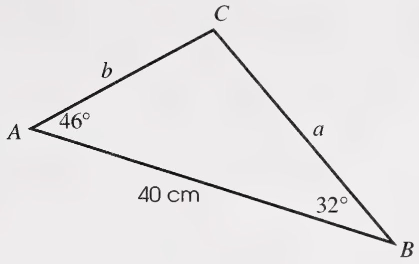


⑥

5. A hiking trail is marked out (as shown in the diagram). The mapmaker wants to supply bearings for the leaflet that describe the trail. Calculate the measures of the angles between the paths. Round your answers to the nearest tenth for each trail.



④ **6.** Solve ΔABC. Round your answers to the nearest tenth.



③ **7.** What is the smallest angle in a triangle with sides 3 cm, 5 cm, and 7 cm? Round your answer to the nearest tenth.

(40)

Final Module Assignment

Read all parts of your assignment carefully and record your answers in the appropriate places. Clearly show how you arrived at your answers by showing your work.

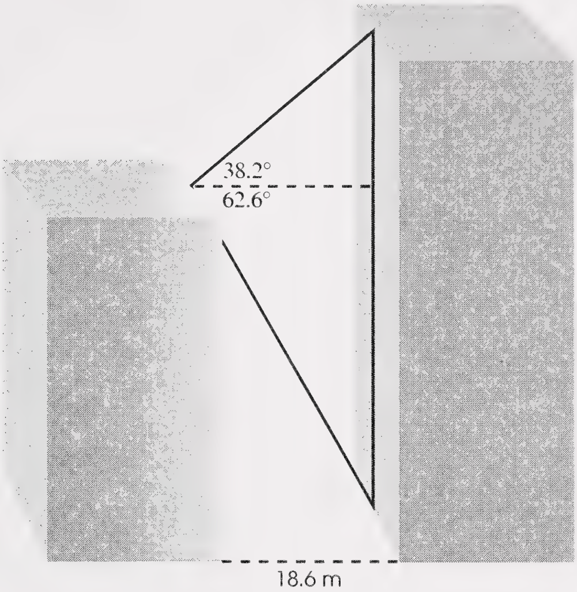
② **1.** What is the measure of $\angle A$ if $\cos A = -0.1254$ and $0° < A < 180°$? Round your answer to the nearest degree.

③ **2.** If $\cos A = \frac{-\sqrt{3}}{2}$ and $0° \leq A \leq 180°$, determine $\sin A$.

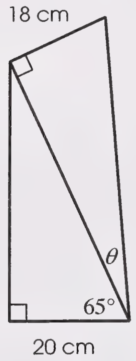
③ **3.** What is the angle of elevation of the sun when a tree 12 m tall casts a shadow 20 m long? Round your answer to the nearest degree.

⑥

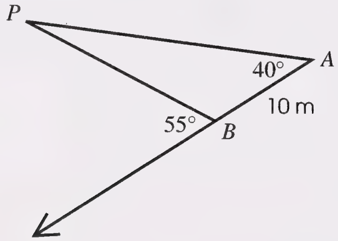
4. Two buildings are 18.6 m part. From the top of the shorter building, the angle of elevation to the top of the taller building is 38.2° and the angle of depression to the base of the taller building is 62.6°. What is the height of the taller building? Round your answer to the nearest tenth.



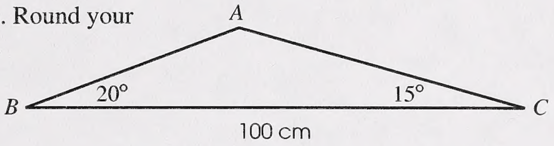
⑤ **5.** Find $\angle\theta$ to the nearest tenth of a degree.



④ **6.** Anna is walking along a straight path. She sees a pine tree, *P*, some distance away. The angle between her line of sight and the path is 40° (as shown in the diagram). When she walks a further 10 m along the path, the angle is 55°. How far was she from the tree when the angle was 40°? Round your answer to the nearest metre.



⑤ **7.** Determine the area of the given triangle. Round your answer to the nearest square centimetre.



8. Jasper walks 2 km due east. He then turns and walks 3 km northeast.

② **a.** How far is Jasper from his starting point? Round your answer to 2 decimal places.

③ **b.** What is the direction of Jasper's destination in relation to his starting point? Round your answer to the nearest degree.

③ **9.** A golfer consistently drives a golf ball 225 m. If she hits a drive down a fairway that is 74 m wide, what is the maximum angle between a drive to the left and a drive to the right that would still be on the fairway? Round your answer to the nearest degree.

④ **10.** Which law (law of sines or law of cosines) would be required to determine m in ΔMNO if $\angle M = 54°$, $n = 8$, $o = 13$? Draw a diagram to illustrate this situation.

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